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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,777	07/28/2003	Takeshi Fujimoto	12852-017001	4507
26211	7590	07/27/2006	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			PAK, SUNG H	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/628,777	FUJIMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sung H. Pak	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's amendment filed 5/02/2006 has been entered. All pending claims have been carefully reconsidered in view of the amendment and the accompanying arguments for patentability. Upon careful reconsideration, however, the examiner respectfully submits that pending claims remain unpatentable. In view of the amended limitations, a new ground of rejection is provided in this office action.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda et al (US 2003/0142924 A1).

Ikeda et al. reference discloses an optical communications module with all the limitations set forth in the claims, including: a plurality of dielectric wiring substrates and a chassis ('1' Fig.

Art Unit: 2874

1- all the removable module cards '4', '5', '6', '7' collectively forming the body of the communications module, i.e. the chassis of the communications module) a plurality of dielectric wiring substrates ('3' Fig 1; paragraph 0023) having an optical transmitter section provided thereon ('38' Fig. 3); at least two of said dielectric wiring substrates having a metal part formed on one side thereof ('52' Fig. 3); said dielectric substrates forming an outer wall of the chassis (Figs. 1-2); said metal part being exposed as an outermost surface of the chassis (Figs. 1-2);

wherein said at least one dielectric wiring substrate having the metal part formed on one side thereof comprises a metal base substrate (paragraph 0036);

wherein the dielectric wiring substrates are thermally separated from each other (because circuit boards are not heat conductors), but thermally connected together through the metal part of the chassis (Fig. 1, Fig. 3- Fig. 3 more clearly shows notches on the two longitudinal edges of the heat sink plate for making contact with adjacent heat sink plates when module cards installed, as shown in Fig. 1);

wherein said chassis has one or more vents ('52' Fig. 3- the heat sink fins provide 'vents' for between the fins for heat to escape).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2874

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 2003/0142924 A1).

Ikeda et al. reference discloses an optical communications module as discussed above, except it does not explicitly state that the dielectric substrate (module card) is a multilayer substrate and that the heat sink plate is formed on the grounding layer.

On the other hand, dielectric wiring substrates (such as printed circuit boards) that are multilayer substrates having grounding layers are well known and common in the art. Such multilayer substrates are well known to be advantageous and desirable in the art because they allow for accommodation of multiple electrical functional elements in a compact, high-density arrangement. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Ikeda to have multilayer substrate with grounding layer as claimed.

Art Unit: 2874

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 2003/0142924 A1) in view of Brophy et al (US 6,592,269 B1).

Ikeda et al. reference discloses nearly all the limitations set forth in the claims as discussed above, except it does not explicitly teach the metal part being partially removed to expose terminal or other components of optical transmitter section.

On the other hand, an optical communication module wherein a metal part of the device substrate is partially removed to expose terminal or other components of optical transmitter section is known in the art, for example, as taught by Brophy et al. (see Fig. 6- the metal part '109' is partially removed to expose a portion of the transceiver section '108'). Such configuration would have been considered advantageous and desirable to one of ordinary skill in the art at the time the invention was made because it allows for a more compact optical transceiver packaging with thinner device profile. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Ikeda et al. to have portion of the metal part removed as taught in Brophy.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

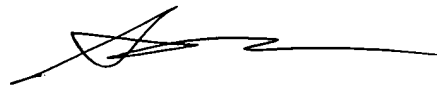
Art Unit: 2874

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sung H. Pak  
Primary Patent Examiner  
Art Unit 2874